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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,050	06/15/2005	Juha Salmivaara	0365-0629PUS1	7392

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EXAMINER

MULL, FRED H

ART UNIT	PAPER NUMBER
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3662

DATE MAILED: 09/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/539,050

Applicant(s)

SALMIVAARA ET AL.

Examiner

Fred H. Mull

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☒ Claim(s) 3-5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to various objection(s) and the rejection(s) over Chintawongvanich, Caballero, and Lorch Microwave have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made.

### ***Claim Objections***

2. Claim(s) 1 and 4 is/are objected to under 37 CFR 1.75. The claim(s) recites the limitation "the beams" in line 1. There is insufficient antecedent basis for this limitation in the claim. Correction is required.

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over IDS document Chintawongvanich in view of {one of Stephens and Parker} and {one of Caballero and Lorch Microwave}.

In regard to claim 1, Chintawongvanich discloses:

feeding an input signal to the antenna matrix (16, Fig. 7);

adjusting the phase of the input signal for each of the antenna elements to produce adjusted signals in order to point the beam of the profiler (col. 7, lines 58-62; col. 8, line 66 to col. 9, line 25; col. 9, line 57 to col. 10, line 17);

Chintawongvanich further discloses the feeding means contains multiple lines (col. 7, lines 21-24), and that such wind profilers can be acoustic or radiowave (col. 1, lines 36-37; col. 2, lines 45-62), where the choice depends, among other things, on what height the measurement to be made is.

Chintawongvanich fails to disclose the details of the wiring of the multiple feed lines in the feeding means, utilizing separate feeder lines for each beam direction, or using a phase controlling means that are hybrid coupler elements.

Stephens (Fig. 1; ¶2) and Parker (Fig. 8) disclose conventional feeding means for array antenna where separate feeder lines for each beam direction.

It would have been obvious to use a known feeding means to implement the feeding means wiring of Chintawongvanich, such as the known feeding means of Stephens and Parker.

As disclosed by Chintawongvanich, sometimes measurements are to be made above 1 km, and in that situation it is known to use a device with radiowave beams (col. 1, lines 36-37; col. 2, lines 45-62). When radiowave beams are to be used, radiowave array phase shifters would have to be used.

Caballero (18, Fig. 4; col. 5, lines 14-17) and Lorch Microwave (p. 1, 1<sup>st</sup> ¶; Fig. 1) disclose that hybrid coupler elements are microwave phase shifters.

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It would have been obvious to use a radiowave version of the wind profiler for measuring wind profiles at greater than 1 km based on Chintawongvanich's teaching that radiowave profilers work better at heights greater than 1 km (col. 1, lines 36-37; col. 2, lines 45-62), and to use the appropriate phase shifters for such a device, which are hybrid coupler elements, as taught by Caballero (18, Fig. 4; col. 5, lines 14-17) and Lorch Microwave (p. 1, 1<sup>st</sup> ¶; Fig. 1).

In regard to claim 2, Caballero (18, Fig. 4; col. 5, lines 14-17) and Lorch Microwave (p. 1, 1<sup>st</sup> ¶; Fig. 1) further discloses that the hybrid coupler elements are 90 degree hybrid couple elements and Chintawongvanich further discloses that the phase shifts create four beams in different directions (#1, #2, #3, #4, Fig. 7; col. 7, lines 58-62; col. 8, line 66 to col. 9, line 25; col. 9, line 57 to col. 10, line 17).

#### ***Allowable Subject Matter***

4. Claim(s) 3-5 would be allowable if amended to overcome the objections set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred H. Mull whose telephone number is 571-272-6975. The examiner can normally be reached on Monday through Friday from approximately 9-5:30.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas H. Tarcza can be reached on 571-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Fred H. Mull  
Examiner  
Art Unit 3662

fhm

  
THOMAS H. TARCZA  
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